
Sequence Listing was accepted.

If you need help call the Patent Electronic Business Center at (866)

217-9197 (toll free).

Reviewer: markspencer

Timestamp: Fri Aug 10 07:46:05 EDT 2007

Validated By CRFValidator v 1.0.2

Application No: Version No: 09961086 2.0

Input Set:

Output Set:

Started: 2007-08-03 12:43:37.383 Finished:

2007-08-03 12:43:37.524

Elapsed: 0 hr(s) 0 min(s) 0 sec(s) 141 ms

Total Warnings:

Total Errors: 0

No. of SeqIDs Defined:

Actual SeqID Count:

SEQUENCE LISTING

<110> University of Maryland, Baltimore Ross, Douglas D. Doyle, L. Austin Abruzzo, Lynne V. <120> Breast Cancer Resistance Protein (BCRP) and the DNA Which Encodes <130> 70089.0009USD1 <140> 09961086 <141> 2001-09-21 <150> 09/961,086 <151> 2001-09-21 <150> US 09/245,808 <151> 1999-02-05 <150> US 60/073,763 <151> 1998-02-05 <160> 7 <170> PatentIn version 3.4 <210> 1 <211> 655 <212> PRT <213> Homo sapiens <400> 1 Met Ser Ser Asn Val Glu Val Phe Ile Pro Val Ser Gln Gly Asn 5 10 15 Thr Asn Gly Phe Pro Ala Thr Ala Ser Asn Asp Leu Lys Ala Phe Thr 20 25 30 Glu Gly Ala Val Leu Ser Phe His Asn Ile Cys Tyr Arg Val Lys Leu 35 40 Lys Ser Gly Phe Leu Pro Cys Arg Lys Pro Val Glu Lys Glu Ile Leu 50 55 60 Ser Asn Ile Asn Gly Ile Met Lys Pro Gly Leu Asn Ala Ile Leu Gly 65 70 75

Pro Thr Gly Gly Lys Ser Ser Leu Leu Asp Val Leu Ala Ala Arg 85 90 95

Lys	Asp	Pro	Ser 100	Gly	Leu	Ser	Gly	Asp 105	Val	Leu	Ile	Asn	Gly 110	Ala	Pro
Arg	Pro	Ala 115	Asn	Phe	Lys	Суз	Asn 120	Ser	Gly	Tyr	Val	Val 125	Gln	Asp	Asp
Val	Val 130	Met	Gly	Thr	Leu	Thr 135	Val	Arg	Glu	Asn	Leu 140	Gln	Phe	Ser	Ala
Ala 145	Leu	Arg	Leu	Ala	Thr 150	Thr	Met	Thr	Asn	His 155	Glu	Lys	Asn	Glu	Arg 160
Ile	Asn	Arg	Val	Ile 165	Gln	Glu	Leu	Gly	Leu 170	Asp	Lys	Val	Ala	Asp 175	Ser
Lys	Val	Gly	Thr 180	Gln	Phe	Ile	Arg	Gly 185	Val	Ser	Gly	Gly	Glu 190	Arg	Lys
Arg	Thr	Ser 195	Ile	Gly	Met	Glu	Leu 200	Ile	Thr	Asp	Pro	Ser 205	Ile	Leu	Phe
Leu	Asp 210	Glu	Pro	Thr	Thr	Gly 215	Leu	Asp	Ser	Ser	Thr 220	Ala	Asn	Ala	Val
Leu 225	Leu	Leu	Leu	Lys	Arg 230	Met	Ser	Lys	Gln	Gly 235	Arg	Thr	Ile	Ile	Phe 240
Ser	Ile	His	Gln	Pro 245	Arg	Tyr	Ser	Ile	Phe 250	Lys	Leu	Phe	Asp	Ser 255	Leu
Thr	Leu	Leu	Ala 260	Ser	Gly	Arg	Leu	Met 265	Phe	His	Gly	Pro	Ala 270	Gln	Glu
Ala	Leu	Gly 275	Tyr	Phe	Glu	Ser	Ala 280	Gly	Tyr	His	Суз	Glu 285	Ala	Tyr	Asn
Asn	Pro 290	Ala	Asp	Phe	Phe	Leu 295	Asp	Ile	Ile	Asn	Gly 300	Asp	Ser	Thr	Ala
Val 305	Ala	Leu	Asn	Arg	Glu 310	Glu	Asp	Phe	Lys	Ala 315	Thr	Glu	Ile	Ile	Glu 320

Pro	Ser	Lys	Gln	Asp 325	Lys	Pro	Leu	Ile	Glu 330	Lys	Leu	Ala	Glu	Ile 335	Tyr
Val	Asn	Ser	Ser 340	Phe	Tyr	Lys	Glu	Thr 345	Lys	Ala	Glu	Leu	His 350	Gln	Leu
Ser	Gly	Gly 355	Glu	Lys	Lys	Lys	Lys 360	Ile	Thr	Val	Phe	Lys 365	Glu	Ile	Ser
Tyr	Thr 370	Thr	Ser	Phe	Суз	His 375	Gln	Leu	Arg	Trp	Val 380	Ser	Lys	Arg	Ser
Phe 385	Lys	Asn	Leu	Leu	Gly 390	Asn	Pro	Gln	Ala	Ser 395	Ile	Ala	Gln	Ile	Ile 400
Val	Thr	Val	Val	Leu 405	Gly	Leu	Val	Ile	Gly 410	Ala	Ile	Tyr	Phe	Gly 415	Leu
Lys	Asn	Asp	Ser 420	Thr	Gly	Ile	Gln	Asn 425	Arg	Ala	Gly	Val	Leu 430	Phe	Phe
Leu	Thr	Thr 435	Asn	Gln	Cys	Phe	Ser 440	Ser	Val	Ser	Ala	Val 445	Glu	Leu	Phe
Val	Val 450	Glu	Lys	Lys	Leu	Phe 455	Ile	His	Glu	Tyr	Ile 460	Ser	Gly	Tyr	Tyr
Arg 465	Val	Ser	Ser	Tyr	Phe 470	Leu	Gly	Lys	Leu	Leu 475	Ser	Asp	Leu	Leu	Pro 480
Met	Thr	Met	Leu	Pro 485	Ser	Ile	Ile	Phe	Thr 490	Cys	Ile	Val	Tyr	Phe 495	Met
Leu	Gly	Leu	Lys 500	Pro	Lys	Ala	Asp	Ala 505	Phe	Phe	Val	Met	Met 510	Phe	Thr
Leu	Met	Met 515	Val	Ala	Tyr	Ser	Ala 520	Ser	Ser	Met	Ala	Leu 525	Ala	Ile	Ala
Ala	Gly 530	Gln	Ser	Val	Val	Ser 535	Val	Ala	Thr	Leu	Leu 540	Met	Thr	Ile	Суз

Phe Val Phe Met Met Ile Phe Ser Gly Leu Leu Val Asn Leu Thr Thr 545 550 555 560

Ile Ala Ser Trp Leu Ser Trp Leu Gln Tyr Phe Ser Ile Pro Arg Tyr
565 570 575

Gly Phe Thr Ala Leu Gln His Asn Glu Phe Leu Gly Gln Asn Phe Cys 580 585 590

Pro Gly Leu Asn Ala Thr Gly Asn Asn Pro Cys Asn Tyr Ala Thr Cys 595 600 605

Thr Gly Glu Glu Tyr Leu Val Lys Gln Gly Ile Asp Leu Ser Pro Trp 610 615 620

Gly Leu Trp Lys Asn His Val Ala Leu Ala Cys Met Ile Val Ile Phe 625 630 635 640

Leu Thr Ile Ala Tyr Leu Lys Leu Leu Phe Leu Lys Lys Tyr Ser \$645\$ \$650\$

<210> 2

<211> 2418

<212> DNA

<213> Homo sapiens

<400> 2

gggaggaggc agcctgtgga ggaactgggt aggatttagg aacgcaccgt gcacatgctt 60 ggtggtcttg ttaagtggaa actgctgctt tagagtttgt ttggaaggtc cgggtgactc 120 atcccaacat ttacatcctt aattgttaaa gcgctgcctc cgagcgcacg catcctgaga 180 tcctgagcct ttggttaaga ccgagctcta ttaagctgaa aagataaaaa ctctccagat gtcttccagt aatgtcgaag tttttatccc agtgtcacaa ggaaacacca atggcttccc 300 cgcgacagct tccaatgacc tgaaggcatt tactgaagga gctgtgttaa gttttcataa 360 catctgctat cgagtaaaac tgaagagtgg ctttctacct tgtcgaaaac cagttgagaa 420 agaaatatta tegaatatea atgggateat gaaaeetggt eteaaegeea teetgggaee 480 cacaqqtqqa qqcaaatctt cqttattaqa tqtcttaqct qcaaqqaaaq atccaaqtqq 540 attatctgga gatgttctga taaatggagc accgcgacct gccaatttca aatgtaattc 600 660 aggttacgtg gtacaagatg atgttgtgat gggcactctg acggtgagag aaaacttaca 720 gttctcagca gctcttcggc ttgcaacaac tatgacgaat catgaaaaaa acgaacggat

taacagggtc	attcaagagt	taggtctgga	taaagtggca	gactccaagg	ttggaactca	780
gtttatccgt	ggtgtgtctg	gaggagaaag	aaaaaggact	agtataggaa	tggagcttat	840
cactgatcct	tccatcttgt	tcttggatga	gcctacaact	ggcttagact	caagcacagc	900
aaatgctgtc	cttttgctcc	tgaaaaggat	gtctaagcag	ggacgaacaa	tcatcttctc	960
cattcatcag	cctcgatatt	ccatcttcaa	gttgtttgat	agcctcacct	tattggcctc	1020
aggaagactt	atgttccacg	ggcctgctca	ggaggccttg	ggatactttg	aatcagctgg	1080
ttatcactgt	gaggcctata	ataaccctgc	agacttcttc	ttggacatca	ttaatggaga	1140
ttccactgct	gtggcattaa	acagagaaga	agactttaaa	gccacagaga	tcatagagcc	1200
ttccaagcag	gataagccac	tcatagaaaa	attagcggag	atttatgtca	actcctcctt	1260
ctacaaagag	acaaaagctg	aattacatca	actttccggg	ggtgagaaga	agaagaagat	1320
cacggtcttc	aaggagatca	gctacaccac	ctccttctgt	catcaactca	gatgggtttc	1380
caagcgttca	ttcaaaaact	tgctgggtaa	tccccaggcc	tctatagctc	agatcattgt	1440
cacagtcgta	ctgggactgg	ttataggtgc	catttacttt	gggctaaaaa	atgattctac	1500
tggaatccag	aacagagctg	gggttctctt	cttcctgacg	accaaccagt	gtttcagcag	1560
tgtttcagcc	gtggaactct	ttgtggtaga	gaagaagctc	ttcatacatg	aatacatcag	1620
cggatactac	agagtgtcat	cttatttcct	tggaaaactg	ttatctgatt	tattacccat	1680
gacgatgtta	ccaagtatta	tatttacctg	tatagtgtac	ttcatgttag	gattgaagcc	1740
aaaggcagat	gccttcttcg	ttatgatgtt	tacccttatg	atggtggctt	attcagccag	1800
ttccatggca	ctggccatag	cagcaggtca	gagtgtggtt	tctgtagcaa	cacttctcat	1860
gaccatctgt	tttgtgttta	tgatgatttt	ttcaggtctg	ttggtcaatc	tcacaaccat	1920
tgcatcttgg	ctgtcatggc	ttcagtactt	cagcattcca	cgatatggat	ttacggcttt	1980
gcagcataat	gaatttttgg	gacaaaactt	ctgcccagga	ctcaatgcaa	caggaaacaa	2040
tccttgtaac	tatgcaacat	gtactggcga	agaatatttg	gtaaagcagg	gcatcgatct	2100
ctcaccctgg	ggcttgtgga	agaatcacgt	ggccttggct	tgtatgattg	ttattttcct	2160
cacaattgcc	tacctgaaat	tgttatttct	taaaaaatat	tcttaaattt	ccccttaatt	2220
cagtatgatt	tatcctcaca	taaaaaagaa	gcactttgat	tgaagtattc	aatcaagttt	2280
ttttgttgtt	ttctgttccc	ttgccatcac	actgttgcac	agcagcaatt	gttttaaaga	2340
gatacatttt	tagaaatcac	aacaaactga	attaaacatg	aaagaaccca	aaaaaaaga	2400

tatcactcag cataatga	2418
<210> 3	
<211> 16	
<212> DNA	
<213> Homo sapiens	
.400	
<400> 3	16
cgaccgacga cacaga	1.0
<210> 4	
<211> 21	
<212> DNA	
<213> Homo sapiens	
10 nome paperns	
<400> 4	
cttaaaatga atgcgattga t	21
<210> 5	
<211> 19	
<212> DNA	
<213> Homo sapiens	
<400> 5	
ttaggattga agccaaagg	19
<210> 6	
<211> 21	
<212> DNA	
<213> Homo sapiens	
<400> 6	
taggcaattg tgaggaaaat a	21
<210> 7	
<211> 795	
<212> DNA	
<213> Homo sapiens	
<400> 7	
tcattatgct gagtgatatc tttttttttg gaaaactgtt atctgattta ttacccatc	ga 60
agatattaga aagtattata tttagatgta tagtgtagatt gatgttagga ttgaagga	120
cgatgttacc aagtattata tttacctgta tagtgtactt catgttagga ttgaagcca	aa 120
aggregating officially attracting grants and grants to aggregate	t 180
aggcagatgc cttcttcgtt atgatgttta cccttatgat ggtggcttat tcagccagt	100
ccatggcact ggccatagca gcaggtcaga gtgtggtttc tgtagcaaca cttctcatg	ya 240
	,
ccatctgttt tgtgtttatg atgatttttt caggtctgtt ggtcaatctc acaaccatt	:q 300
JJ-J	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,

catcttggct gtcatggctt cagtacttca gcattccacg atatggattt acggctttgc 360

agcataatga	atttttggga	caaaacttct	gcccaggact	caatgcaaca	ggaaacaatc	420
cttgtaacta	tgcaacatgt	actggcgaag	aatatttggt	aaagcagggc	atcgatctct	480
caccctgggg	cttgtggaag	aatcacgtgg	ccttggcttg	tatgattgtt	attttcctca	540
caattgccta	cctgaaattg	ttatttctta	aaaaatattc	ttaaatttcc	ccttaattca	600
gtatgattta	tcctcacata	aaaaagaagc	actttgattg	aagtattcaa	tcaagttttt	660
ttgttgtttt	ctgttccctt	gccatcacac	tgttgcacag	cagcaattgt	tttaaagaga	720
tacattttta	gaaatcacaa	caaactgaat	taaacatgaa	agaacccaaa	aaaaaagata	780
tcactcagca	taatg					795